

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for processing an information based on a sequence of instructions in an apparatus for data processing, said method comprising:

detecting a repeated sub-sequence in said sequence of instructions by the apparatus for data processing;

providing an index information indicating the repetition frequency of said repeated sub-sequence, wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-sequence compared to the repetition rate of other detected repeated sub-sequences; and

determining an allocation between a processing resource and

said repeated sub-sequence based on said index information.

2.(Previously Presented) The method of claim 1, including generating an instruction containing said index information, and adding said instruction to said sequence of instructions.

Claim 3 (Canceled)

4.(Previously Presented) The method of claim 1, wherein said allocation is determined by comparing said integer number with the number of available processing resources.

5.(Previously Presented) The method of claim 4, wherein all repeated sub-sequences for which said integer number is smaller than said number of available processing resources are allocated to a selected processing resource.

6.(Previously Presented) The method of claim 1, wherein said index information comprises an information indicating the number of

instructions in said repeated sub-sequence.

7.(Previously Presented) The method of claim 1, including generating an instruction for deleting said repeated sub-sequence, if said repeated sub-sequence is no longer detected for a predetermined time period, and resetting a processing unit to which said deleted repeated sub-sequence was allocated.

8.(Previously Presented) The method of claim 1, including generating an instruction for specifying processing registers used by said repeated sub-sequence, and using said instruction for locking said specified processing registers.

9.(Previously Presented) The method of claim 2, including activating a processing resource when said instruction containing said index information indicates that the corresponding repeated sub-sequence has already been allocated to said processing resource.

10. (Previously Presented) The method of claim 9, wherein said activating comprises programming said processing resource according to said corresponding repeated sub-sequence, or uploading said corresponding repeated sub-sequence to a memory of said processing resource.

11. (Previously Presented) The method of claim 1, including signalling the presence of external processing units to a central processing unit, and counting the number of available external processing units based on said signalling.

12. (Previously Presented) An apparatus for processing an information based on a sequence of instructions, said apparatus comprising:

detecting means for detecting a repeated sub-sequence in said sequence of instructions, and for providing an index information indicating the repetition frequency of said repeated sub-sequence, wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated

sub-sequence compared to the repetition rate of other detected repeated sub-sequences; and

resource control means for allocating said repeated sub-sequence to a processing resource based on said index information.

13. (Previously Presented) The apparatus of claim 12, further comprising connecting means for connecting at least one external processing unit to which said repeated sub-sequence can be allocated.

14. (Previously Presented) The apparatus of claim 13, further comprising a memory table for storing an allocation information indicating an allocation between said at least one external processing unit and corresponding repeated sub-sequences.

15. (Previously Presented) The apparatus of claim 13, wherein said apparatus is a digital signal processor and said at least one external processing units are processor cores and/or configurable logic blocks.

16. (Previously Presented) The apparatus of claim 13, further comprising means for determining the number of said at least one external processing units connected to said connecting means.

17. (Previously Presented) The apparatus of claim 13, further comprising mapping means for mapping said repeated sub-sequence to an available one of said at least one external processing unit based on said index information.

18. (Currently Amended) A compiler stored on a computer readable medium, the compiler for providing an output sequence of instructions to be used for processing an information in an apparatus for data processing, said compiler being arranged to detect a repeated sub-sequence in said output sequence of instructions and to provide an index information indicating the repetition frequency of said repeated sub-sequence, wherein said index information comprises an integer number set in proportion with a ranking of said repetition rate of said repeated sub-

sequence compared to the repetition rate of other detected repeated sub-sequences.

19. (Currently Amended) ~~The compiler of claim 18,~~ A compiler stored on a computer readable medium, the compiler for providing an output sequence of instructions to be used for processing an information in an apparatus for data processing, said compiler being arranged to detect a repeated sub-sequence in said output sequence of instructions and to provide an index information indicating the repetition frequency of said repeated sub-sequence, wherein said compiler is arranged to add to said repeated sub-sequence an instruction specifying said index information.

20. (Previously Presented) The compiler of claim 19, wherein said additional instruction is added so as to precede said repeated sub-sequence.

21. (Currently Amended) ~~The compiler of claim 18,~~ A compiler stored on a computer readable medium, the compiler for providing an

output sequence of instructions to be used for processing an
information in an apparatus for data processing, said compiler
being arranged to detect a repeated sub-sequence in said output
sequence of instructions and to provide an index information
indicating the repetition frequency of said repeated sub-sequence,
wherein said compiler is arranged to add to said output sequence an
instruction for indicating that said repeated sub-sequence is not
used anymore.

22. (Previously Presented) The compiler of claim 18, wherein
said compiler is arranged to add to said output sequence an
instruction for allocating at least one processing register means
until said repeated sub-sequence is finished.

23. (Previously Presented) The compiler of claim 18, wherein
said compiler is arranged to determine the ranking of repeated sub-
sequences based on their repetition rate.

24. (New) The compiler of claim 19, wherein said compiler is

arranged to allocate said repeated sub-sequence to a separate processing unit.

25. (New) The compiler of claim 19, wherein said compiler is arranged to add an additional instruction to said repeated sub-sequence for use in processing notification at execution time.